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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Zenon Rypan

Application/Control No. : 10/645,352

Filed: August 21, 2003

For: SPACE SAVING COOKING APPLIANCE

Art Unit: 3742

Examiner: Philip H. Leung

RESPONSE TO ELECTION/RESTRICTIONS

Honorable Commissioner of Patents and Trademarks, Washington D.C. 20231

Sir:

This correspondence is in response to the election / restrictions requirement issued September 8, 2004. Kindly accept the following response and election.

An applicant has finally elected for present application a single disclosed species, presented by

the group of Figures 5-6, 13-14 and 15-16, to make a patentability search and further prosecution. Except, kindly should be included the Figures 1-4 in provisional application No.

60 / 279,292 filed March 28, 2001, related to this application.

ADDITIONAL EXPLANATIONS TO ELECTED GROUP OF FIGURES

It is believed by the applicant, that except the descriptions made in provisional and parent applications, it is necessary to bring some clarifications and explanations to the above said Figures, without any substantial changes or additions to them. These clarifications would help the Examiner make a more profound search on the matter of patentability of the divisional application.

1. Cavity's horizontally sliding door, described in provisional application and shown on Figs 1,

2, 3 and 4, has been replaced by a conventional door, suspended on hinges. Door's opening

and closing could be optional: either driven by electric motor or by hand.

2. Conventional method of microwave distribution in provisional application, shown on Fig. 4

has been considered by an applicant as obsolete and replaced by new one, described in parent

application and below. Turntable is also considered as an obsolete item.

3. It is believed, that the title of divisional application would be changed, though an appliance

remains to be of the space saving kind: It can be put on any spot of a kitchen counter - in the

corner, against the wall, etc., always taking up minimum countertop's area. And at the

same

time the appliance itself is also the most economical kind, because its surface-to-volume ratio is

minimal. For example, at the same outer dimensions the sphere takes up only 52 percent of a

volume and 52 percent of outer area, if compared to the cube (100 percent).

Titles could be believed as such: Mini Microwave Oven, Spherical Microwave Oven.

4. One of the very important and innovative features of the invention is the new method of

distribution of the microwaves inside the cavity and the shape of the heating cavity's wall. If the

magnetron and its antenna is mounted over the center of cavity's ceiling, microwaves radiate

conically down on the circular bottom and fully cylindrical wall (see Figs. 13 and 14 in a parent

application). The cylindrical wall allows microwaves to make strictly radial reflections off the

cylindrical wall down on the food. So, microwave distribution is regulated, not chaotic as it is in

conventional cavities. Only once reflected from the wall, the microwaves are strictly directed to

the bottom region, where the food is mostly placed.

The method substantially shortens the time for heating and cooking of the food and decreases

the heating of cavity's walls, because of microwaves' greatly reduced way to get the food from

antenna. If the microwaves' ways are chaotical, multiply reflected from the wall, bottom and

ceiling, they get more heated while the food gets to be less heated. This method is fit to all appliances which have a full-cylindrical wall and centrally placed antenna on the ceiling of cavity

(see Figs. 2, 4, 8, 12 in parent application).

5. Yet better effect can be achieved if the cavity's wall gets the shape of ellipsoid, or the like

(see Fig. 4 in provisional application and Figs. 15 and 16 in parent application). Such a mathematically created shape (practically very close to the sphere) has advantage over cylindrical wall. It directs most of reflected microwaves off the ellipsoidal wall just into the center

part of the bottom, where the food gets usually the least heated (see Fig. 15).

6. Except ellipsoidal wall, there is another novelty - a series of circular corrugations stamped up

on the bottom of the cavity (see Fig. 16) to deflect the kind of waves (see Fig. 15) into the

center bottom part of the cavity for additional portion of microwave energy to help penetrate

the most deep parts of a food.

7. Yet another novelty was created, but was not included in a parent application, because applicant felt the application was too crammed by many different innovations. The idea consisted of the following. If the orifice in a cavity's ceiling 430 (Fig. 15), which is made in the

form of metal pipe in which the antenna has been semi-hidden, will slightly swivel around the

antenna's vertical axis, the microwaves will continuously change the falling angles on the

wall and

bottom causing the extra uniformity of heating of the food in addition to the new method of


distribution of microwaves described above. This would allow to finally exclude the turntable

from the cavity as an unnecessary item.

In connection with this, an applicant is asking the Examiner to permit to include the above described novelty in a present divisional application. An additional Figure would be drafted, if needed, after getting a permission.

Respectfully submitted

by:



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